REMARKS

In this Amendment, Applicant has cancelled Claims 5 – 6; amended Claims 1, 4, 7 11, and 13; and added Claims 14 – 16. Claims 1 and 13 have been amended and Claims 14 – 16 have been added to specify different embodiments of the present invention and overcome the rejection. Claims 4, 7 and 11 have been amended to correct informalities. It is respectfully submitted that no new matter has been introduced by the amended and added claims. All claims are now present for examination and favorable reconsideration is respectfully requested in view of the preceding amendments and the following comments.

CLAIM OBJECTIONS:

Claim 5 has been objected under 37 CFR 1.75(c), as allegedly being failing to further limit the subject matter of a previous claim.

It is respectfully submitted that the objection has been overcome by the present amendment. More specifically, Claim 5 has been cancelled. Therefore, the objection has been overcome. Accordingly, withdrawal of the objection is respectfully requested.

REJECTIONS UNDER 35 U.S.C. § 102:

Claims 1 – 8 and 12 – 13 have been rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Yen (US Pat. No. 6,589,615), hereinafter Yen.

Applicant traverses the rejection and respectfully submits that the presently claimed invention is not anticipated by the cited reference. More specifically, Claims 1 and 13 have been amended to define that the hydrophilic compound "is solid and soluable in water at 20°C." The support can be found throughout the specification, such as the hydrophilic compounds in the Examples. In addition, Claim 14 has been added to delete "alkylene glycols"; Claims 15 and 16 have been amended to define that "the permeability of the film to water vapor is about 450 – 515 $g/m^2/day$". These features are not disclosed

or suggested by Yen. Claims 2 – 3 and 7 – 12 also include these features due to their dependence on Claim 1.

Both in Yen (US 6,589,615) and in the present application disclose the internal structure (morphology) of the film. In Yen, a **porous** casing for food products is disclosed, which consists essentially of a food-grade thermoplastic film with a plurality of internal interconnected interstices (pores or channels) (Abstract), that are formed by a porosity modifier (claims 1, 24, 25, 26, 31). Applicant respectfully draws the Examiner's attention to the fact that Yen is related to a porous casing (film), which is different from the presently claimed invention, **in which interstices are absent.**

Regarding the Examiner's assertion that in Yen the component providing high permeability of the film with respect to smoke substances and water vapors is a hydrophilic compound, Applicant respectfully submits that the component providing a high permeability of the film according to Yen is a porosity modifier, but not a hydrophilic compound, as the Examiner indicates (column 2, lines 3—4). From the consideration of compounds employed (listed) as porosity modifiers (soybean oil, peanut oil, corn oil, glycerin, polyethylene glycol, monolaureate, mineral oil, polyoxyethylene, sorbitan monostearate, sorbitan monooleate and glycerin monooleate (column 3, lines 11—20)), it is seen that only two of them — glycerin and polyethylene glycol 400 — are hydrophilic low-molecular weight compounds, the rest have pronounced hydrophobic properties and are insoluble in water. All the above-cited porosity modifiers are **liquid** at room temperature (which we assume to be equal to 20°C). Indeed, any liquid provides a better permeability for water vapors or dissolved substances than a solid (including a polymer) does. Therefore, a porosity modifier need not be a hydrophilic compound.

Unlike Yen, in the present invention is not related to liquid hydrophilic compounds. This is supported by the fact that all the polymer compounds cited in the invention (both in the description and in the Examples) are solids under the stated conditions, as well as inorganic compounds (salts).

Furthermore, Yen discloses that "The sizes of the interstices are in the range of 0.002 to 1 micron" (column 2, lines 12—13). Applicant respectfully submits that, in the present invention, the interstices, to be more exact, a plurality (network) of interconnected interstices (pores or channels) **are not formed.** According to Yen (column 2, lines 32—36), the interconnected interstices are filled with a porosity modifier which can be removed (column 2, lines 13—15, 38—39). This means that the system of interconnected pores is continuous and has an exit on the film surface. Hence, the morphology of the film according to Yen comprises two interpenetrating continuous phases — a phase of a thermoplastic and a phase of a porosity modifier. Consequently, **the porosity modifier does not form a highly dispersed phase in the polyamide matrix.** With regards to the void (interstice) sizes (from 0.005 to 1 μm), in Yen, no direct indications can be found, which of their dimensions (parameters) these numerical values relate to. However, according to Yen (p.2 lines 9-10), the porosity modifier defines a network of interconnected interstices (pores or channels) in the thermoplastic which allow a permeate to permeate across (through) the casing». Hence said "interstices" are through (open) pores or channels. Since the lengths of the interstices (channels) must be comparable with the thickness of the film as such (0.5—15 mils, i.e., 12.5—380 μm, column 3, lines 7—9), then said dimensions are their thicknesses or diameters. That is, the cited numerical quantities relate to the linear size of interstices along the plane of the film, but not perpendicular to it.

In the present Application, in the polyamide matrix, only a highly dispersed phase of a hydrophilic compound is present, which consists of discrete domains of the hydrophilic compound, wherein the domain sizes are 0.1—3.0 μm in a direction perpendicular to the plane of the film. These sizes are substantially smaller than the thicknesses of the film as such. The term "domain" or "phase domain" in polymer science denotes **an isolated discrete** area, as distinct from "matrix" which is a continuous area. The word combination "dispersed phase" also denotes a phase consisting of separate, not interconnected moieties (domains). The film according to the present invention **can in no way be called porous** — such an assumption is in contradiction with both the morphology shown in the microphotographs and with its properties, such as low permeability for oxygen. In the present application, the hydrophilic compound is not

washed out from the film. It can be removed (washed out) only from microcuts of the film under consideration the thickness of this microcuts being comparable with the size of a phase domain, which occurred when preparing for producing microphotographs illustrating the description of the present application. Therefore, partial coincidence (overlapping) of the dimensions of the interstices and domains of the hydrophilic phase is not indicative of the disclosure of the present invention in Yen.

Furthermore, the permeability values for water vapor in the casings according to Yen and in the casing under consideration **substantially (or radically)** differ. Thus, the casing according to Yen has a permeability to water vapor of about between 1 to 1500 $g/m^2/min$, that is, on conversion to the dimensions presented in the present application, it amounts to **1440—2160000 $g/m^2/day$**, while the casing of the present application has a permeability to water vapor of **450—515 $g/m^2/day$** (see page 12 of the specification). This clearly shows the presence of channels in the casing according to Yen. Another supporting evidence is the fact that in preferred embodiments of Yen (column 2, lines 23-29) and in an alternative embodiment (column 2, lines 42—43), an inorganic filler is used for imparting structural strength to the casing, this being not required in the present application.

The existence of through channels in the polymer film *per se* offers good explanation of its high permeability. At the same time, the fact that the film in which the hydrophilic phase is distributed in the form of separate small particles has a high permeability, is a paradox. The inventor of the present application advanced a hypothesis concerning the reasons of the discovered paradoxical effect (page 3, column 1, lines 1—19 of the present Application US 2004/0062889 A1). Therefore, Applicant remains convinced that the morphology of the film according to the present invention does not contain elements (through channels, pores, etc.) the presence of which would explain the fact of its high permeability from the standpoint of ordinary logic.

All the above reasons are also relevant to the following features deemed disclosed by Yen: when a polyamide is used as the thermoplastic, and as the hydrophilic compound use is made of a porosity modifier — a low-molecular liquid — glycerin. In view of the

submitted facts, Applicant believes that in spite of the coincidence of the components of the thermoplastic mixture, Yen is significantly different from the present invention.

With regard to the use of inorganic compounds (salts), both in Yen and in the present application, inorganic compounds (salts) are used as the film components. However, in Yen, they function as **reinforcing agents** ("an inorganic filler is used to impart structural integrity to the casing", column 2, lines 23—24), while **in the present application,** they provide **high permeability of the film to water vapors and smoke substances.** Therefore the reference made by the Examiner to column 4, lines 15—17 of Yen merely shows that as the film components there were taken a porosity modifier which ensures high permeability of the film to water vapors and an inorganic filler which acts as a reinforcing agent, i.e., imparts the necessary mechanical properties to the film. Besides, though the size of the employed inorganic particles corresponds to about 1—25 microns and partially overlaps the claimed linear size of the domains of the hydrophilic phase of the present application, this fact indicates only that the introducing of fillers of such size is conditioned by the final **thickness** of the film being manufactured. Using fillers having a larger size would lead to the non-uniformity of the film thickness, which cannot be tolerated in the manufacture of casings for food products, first of all, in the manufacture of sausage casings.

Therefore, the newly presented claims are not anticipated by Yen and the rejection under 35 U.S.C. § 102(e) has been overcome. Accordingly, withdrawal of the rejection under 35 U.S.C. § 102(e) is respectfully requested.

REJECTIONS UNDER 35 U.S.C. § 103:

Claims 9 – 11 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Yen in view of Strutzel (US 4,243,074).

Applicant traverses the rejection and respectfully submits that the embodiments of present-claimed invention are not obvious over Strutzel in view of Yen. The significant

differences between the present invention and Yen have been discussed as above. The differences between the present invention and Strutzel has been discussed in detail in previous response (see pages 10 – 11 of the response previously submitted on December 19, 2005 in response to the Office Action mailed August 23, 2005).

Due to above indicated differences, there is no motivation or reasonable expectation of success to combine Strutzel with Yen. Therefore, Even if they are combined, a person of ordinary skill in the art will not discern the present invention at time of its invention.

In summary, the newly presented claims are not obvious over Strutzel in view of Yen.The rejection under 35 U.S.C. § 103 has been overcome. Accordingly, withdrawal of the rejections under 35 U.S.C. § 103 is respectfully requested.

Having overcome all outstanding grounds of rejection, the application is now in condition for allowance, and prompt action toward that end is respectfully solicited.

Respectfully submitted,

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